

Preliminary Data Gap Analysis  
Pebble Project Environmental Impact Statement

Resource: Water Quality			
Project Component	Analysis Component	Description	Data Recommendations
Mine Site	Effects Analysis; Water Quality	Bench scale testing data to describe the performance of proposed water treatment technologies.	Provide bench scale testing data to describe the performance of proposed water treatment technologies. These data will be used to describe the quality of discharged water, and are essential for water quality impact modeling.
Mine Site	Effects Analysis; Water Quality	Water quality modeling for mine components such as waste rock runoff and TSF cover water. These data are typically included in a "Water Resources Management Plan" or similar, specific to the project as currently proposed.	<p>Provide water quality modeling for mine components such as waste rock runoff and TSF cover water. These data would be used to predict water quality impacts from the proposed action and the alternatives. These data would typically be included in a "Water Resources Management Plan" or similar document, and are specific to the proposed project.</p> <p>Provide the "Water Resources Management Plan" for the project as currently proposed. The current project description included in Appendix D of the USACE permit application lacks sufficient detail to assess water quality impacts for the project.</p>
Mine Site	Effects Analysis; Water Quality / Fishery Resources	Water quality data used as input for the Biological Ligand Model.	<p>Within the watershed, aquatic chemistry data required are:</p> <ul style="list-style-type: none"> <li>• Sampling location maps and IDs, sampling date, environmental conditions; sample collection and handling, analytical methods, QA/QC information.</li> <li>• Dissolved concentration of metals (aluminum, cadmium, copper, iron, nickel, zinc, etc.); Dissolved is operationally defined as that passing 0.45 micron filter.</li> </ul>

			<p>Dissolved concentration of major cations (Ca, K, Mg, Na).</p> <ul style="list-style-type: none"> <li>• Dissolved concentration of anions (Cl, NO<sub>3</sub>, SO<sub>4</sub>).</li> <li>• pH (preferably in-situ not lab).</li> <li>• Alkalinity.</li> <li>• Hardness.</li> <li>• DOC or total organic carbon (TOC; less preferable than DOC); if available, composition of DOC in terms of humic/fulvic acid percentages</li> <li>• Water temperature.</li> </ul> <p>Two sets of above data will be required;</p> <ol style="list-style-type: none"> <li>1) For the reference conditions (presumed to come out of the Baseline Study).</li> <li>2) For the "Impacted Conditions" (presumed to be identified as a result of hydrogeological modelling).</li> </ol> <p>The chemistry data needed for "impacted conditions" will depend on numerous factors such as the geographic and temporal extents of the analysis, the water management practices included under the proposed action and alternatives, and the efficacy of the proposed water treatment plant; all of which could affect the outcome of the biotic ligand calculations for the impacts analysis.</p>
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#### Data Reviewed

1. EBD
2. EPA Watershed Study
3. Project Description (Appendix D to the USACE permit Application)